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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

WOODS, ERIC V

ART UNIT PAPER NUMBER

2672

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/781,963	IDE, TAKASHI	
	Examiner	Art Unit	
	Eric V. Woods	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10 May 2005 have been fully considered but they are not persuasive.

Several points will be addressed below.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., macroinstructions, database conversion, and the like – see particularly Remarks page 2) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, those arguments are spurious and should properly be disregarded, though examiner will address each in turn.

Firstly, applicant's representative has not disputed that Jennings and Adler teach valid claim elements under means plus function language. Thusly, applicant will not be allowed to utilize such an argument if this case goes to appeal, as applicant is no longer entitled to make that argument, as it was not raised in the response to the previous Office Action. Any such attempt would result in such an appeal brief being held to be non-compliant and/or defective.

Next, applicant has not introduced any amendments except to cancel claim 14. Therefore, examiner has not changed the grounds of rejection, and the finality of this Office Action is proper, and all claims stand twice and finally rejected.

Applicant runs the argument on Remarks page 1 that Adler does not teach the recited two-dimensional data structure, and that a one-dimensional cell value is calculated. This argument fails for several reasons. Firstly, Adler teaches a spreadsheet; the example column is summed into one cell. If multiple columns were selected, then a plurality of cells would be selected, where one cell at the base of each column would serve as the cell where the total was stored for that particular column. This functionality is truly well known in the art, and Microsoft® Excel™ has implemented this functionality for over a decade. Adler would certainly have this functionality, and if not such a modification would be trivially obvious. Secondly, applicant's arguments center on the word 'configuration' – the claimed language reads *inter alia*, "having a different configuration..." A standard definition of the word "configuration" from the American Heritage College Dictionary lists as the first definition "Arrangement of parts or elements". Clearly, if the input data were a plurality of columns, and the output data were a plurality of cells below those columns, each column having one cell at the base containing the total, this would clearly have a different "configuration". Applicant has not further defined this term, so the broadest reasonable interpretation will be used, as is consistent with Office policy (see MPEP 724 for example).

Examiner does **not** acknowledge that Adler is deficient in regards to the point asserted by applicant. Rather, Jennings was added for clarification purposes, which will be addressed below – the motivation for combination in 7D dealt with several issues, one of which was motivation for combining with respect to **databases** because applicant's invention at least partially relates to that. However, the motivation is kept the

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same and repeated in the rejection below and remains valid. Examiner is merely pointing out more and further features of the Adler reference.

Secondly, applicant asserts that after a SQL Join operation, that the fields of a database remain the same. This is not always the case; see for example seminal papers about the Data Cube – A Multi-Dimensional Database Operator. Also, it is well known in the art that join operators can be conducted with data sets that do not have the same size – e.g. blank fields will be created where no data exists in one set so that the fields can be joined successfully. Clearly, such an effect would also produce a two-dimensional output with a different configuration than the input data.

In response to applicant's argument that Jennings might not be properly incorporated with Adler, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Next, the argument that the cooperation of the relational database and the spreadsheet would be “nonsensical” is addressed. This argument fails on two counts: firstly, it does not matter if conversion would be required – applicant's claims have no language excluding conversion, and even if such were required – and examiner does not concede that it is – assuming arguendo that it were, it could be done in a manner transparent to the operating system and the user, and as such would not be a barrier to

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the combination of the references to produce applicant's invention. Secondly, relational databases interact with users directly through **views**, which do reflect the relational model. Users are typically authorized to see a **view** of a database, which includes only certain fields. Such fields could be directly copied to the spreadsheet and the relational model **would** be preserved because it matched the views of the fields they could see in the database, at least as far as the relationships per se between the shown database fields.

Finally, the assertion that the macroinstruction will fail is mistaken. It would be obvious to one of ordinary skill in the art that if two sets of two-dimensional data fields were being combined, and the data were the same except that one set had some fields lacked by the others, it would be obvious that the resultant combination would require data fields that represented each values, and it would be obvious that a blank data field could be created for the missing data – any competent computer programmer is aware that input fields can be null or blank when things are combined and knows that checks need to be done for such items. This would clearly apply here, since if a field were nonexistent or null in one data set, it would be obvious (from computer programming) to instantiate that field and initialize it with a zero or whatever the appropriate value would be so that when that field and the other field from the other data set were joined that the result would be according to the identity $A + 0 = A$ from Boolean algebra or similar.

Applicant's invention is not patentable for the reasons set forth above and is obvious.

2. Applicant's cancellation of claim 14 via amendment is noted.

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3. Applicant's arguments see pages 1-2, filed 10 May 2005, with respect to the objections to the abstract, title, and specification have been fully considered and are persuasive. The objections to the specification, title, and abstract have been withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adler et al (US 6,138,130)('Adler') in view of and in light of Jennings et al (Jennings, Roger, et al. "Special Edition, Using Access™ 95". Copyright 1995).

Clearly, the method and apparatus claims are comparable and have the exact same wording. The computer-related product / computer-readable medium is taught by Adler, clearly, for example claim 22 (col. 31, lines 30-40), so that is a trivially obvious variant and will not be separately addressed. As such, the rejection below is equally valid for claims 1, 5, and 9 without further comment or modification for the reasons set forth

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above. Firstly, the rejection under Adler will be repeated, and then the additional limitations set forth in the amendment introduced with the RCE will be addressed in light of the second reference and applicant's Arguments.

7. As to claims 1, 5, and 9,

A two-dimensional data processing apparatus comprising:

- Operating means for inputting two-dimensional data, and for outputting one piece of two-dimensional data obtained after an entirety of rows or columns of said input two-dimensional data is subjected selectively to one of a plurality of predefined operations, the one piece of output two-dimensional data having a different configuration from the input two-dimensional data;
- Designating means for designating an operation type, which specifies said operation by said operating means, and an input target and an output target of said operation;
- Recording means for recording at least one set of operation contents in the designated order of said operation contents, with the operation type, input target and output target designated through said designating means being one set of operation contents; and
- Activating means for sequentially reading out said operation contents recorded by said recording means, and for selectively activating one operation for said operating means based on the operation type, input target and output target of said operation contents.

A. Restatement of art rejection based on Adler from earlier Final Rejection

Re claim 1, Adler discloses a two-dimensional data processing comprising operating means for inputting two-dimensional data, and for outputting one piece of two-dimensional data obtained after an entirety of rows or columns of input two-dimensional

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data is subjected selectively to one of a plurality of predefined operations (col. 1, line 45 to col. 2, line 2); designating means for designating an operation type which specifies operation by operating means, and an input target and an output target of operation (col. 3, line 60 to col. 6, line 25); recording means for recording at least one set of operation contents in the designated order of operation contents, with the operation type, input target and output target designated through designating means being one set operation contents (col. 6. lines 12-25); and activating means for sequentially reading out operation contents recorded by recording means, and for selectively activating one operation for operating means based on the operation type, input target and output target of operation contents (col. 6. line 12 to col. 10, line 67). In other words, Adler teaches an electronic spreadsheet in two-dimensional format wherein the user has the flexibility to customize the spreadsheet.

The data associated with a cell (row and column) is called an object. The objects can be manipulated in that the user can input and manipulate data. The user is able to program new types of objects into the interpreter, define the operations that can be performed on these objects and then immediately utilize these objects in the context of the electronic spreadsheet. The electronic spreadsheet allows the user to perform functions, to create new objects, and to alter the basic operations permissible on those objects. In that the computer processing associates each object and each formula with each cell and correspondingly evaluates each formula and assigns to the operators) in each formula plurality of operative expressions selected in accordance with the object type of the changes and re-associating the result of each formula with each cell

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containing each formula operating on the at least one object whose value has changed. In addition, the computer processing stores each objects and each formula associated with each cell in a storage device (i.e. recording means).

B. Added Limitation of 'Entirety of rows or columns'

See paragraph (7) above, where this point is addressed at length, but it is well known in the art to enable the user to be able to select all data fields, and also in the art of databases, it is well known in the art to allow the user to perform operations on the entire data set, e.g. sort, merge, join, and typical logical and SQL queries. The details herein will not be enumerated, as these are all well known to one of ordinary skill in the art, and it would have been obvious to modify the system of Adler to perform said limitations if it already did not do so, in light of the discussion in (7) above.

C. Added Limitation of 'One piece of output two-dimensional data ... having different configuration ... from the input two-dimensional data'

Firstly, in the Background and Related Art sections of applicant's specification, applicant clearly admits that relational databases are known in the art and that utilities and functionality are known such that data from the one can be switched between the two in an interchangeable manner, regardless of ease of use issues involved therein. For all practical purposes, a spreadsheet is merely a view of a relational database, and this view is backed by applicant's background.

Microsoft Access is a database program providing the user with views of data fields stored therein. Firstly, comparable background will be established. Adler 21:1-30 clearly establishes that dataflow relationships exist between interrelated elements, and

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2:2-30 clearly establishes that the product can be used with spreadsheets capable of displaying multidimensional, interrelated data sets. *Prima facie* based on 3:52-67 in Adler, which establishes that his invention can process data taken from electronic databases, and can also manipulate entire data sets inserted in one cell, this clearly establishes that the spreadsheet functionality is inexorably linked to that of a database and that, for this kind of purpose, the two are interchangeable. Further, relational databases (RDBMS) and SQL (structured query language) are well known in the art of databases, and are accessible / can be created / or are part of Microsoft Access, that is, the MS Access system utilizes such queries (Jennings pgs. 832-837 for example). Again, this clearly establishes that a multi-dimensional database can be coupled into and with a spreadsheet such that a two-dimensional view of a database and a spreadsheet can be comparable and interchangeable. Two-dimensional data in a spreadsheet can easily be transferred into a database and vice versa, as established by Adler, Jennings, and as is well known in the art.

Jennings very clearly teaches that (pgs. 286-290) databases have many kinds of operators, and Query results can obviously be two-dimensional (see pgs. 308-313, particularly Fig. 9.8 on pg. 311 where a two-dimensional query result is entered). Secondly, SQL join operators are known (Jennings 318-328), wherein multicolumn and multi-table joins (pgs. 325-328) are further well known. Given that multi-table join operators are well-known, multiple two dimensional data sets (tables, spreadsheets, et cetera) can be operated upon simultaneously, as can, for example, multiple columns (pg. 325), which therefore establishes (based on the logic in (7)) that it is well known

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and obvious to operate a join, query, merge, sort, relational operators (pgs. 880-881), et cetera, upon two-dimensional data sets (tables and spreadsheets for example) in their entirety using, for instance, the Select All option known to come standard with Microsoft® products as set forth in (7).

D. Motivation / Combination

Therefore, It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the spreadsheet of Adler with the database and queries of Jennings as set forth above in numerous paragraphs, given that (pgs. 221-249) Jennings teaches the import of data from multiple columns of a spreadsheet specifically (pgs. 245-246) and the importing of data from a spreadsheet generally (pgs. 221-249), and Adler clearly teaches the use of spreadsheets and establishes that spreadsheets can import and obtain data from databases as set forth above.

Adler teaches a spreadsheet; the example column is summed into one cell. If multiple columns were selected, then a plurality of cells would be selected, where one cell at the base of each column would serve as the cell where the total was stored for that particular column. This functionality is truly well known in the art, and Microsoft® Excel™ has implemented this functionality for over a decade. Adler would certainly have this functionality, and if not such a modification would be trivially obvious.

It would be obvious to one of ordinary skill in the art that if two sets of two-dimensional data fields were being combined, and the data were the same except that one set had some fields lacked by the others, it would be obvious that the resultant combination would require data fields that represented each values, and it would be obvious that a

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blank data field could be created for the missing data – any competent computer programmer is aware that input fields can be null or blank when things are combined and knows that checks need to be done for such items. This would clearly apply here, since if a field were nonexistent or null in one data set, it would be obvious (from computer programming) to instantiate that field and initialize it with a zero or whatever the appropriate value would be so that when that field and the other field from the other data set were joined that the result would be according to the identity $A + 0 = A$ from Boolean algebra or similar. Applicant's invention is not patentable for the reasons set forth above and is obvious.

E. Additional Responses to Arguments with Respect to These Claims, and the Rejection under 35 U.S.C. 103(a)

Applicant's comments in Arguments (pg. 8, second and third paragraphs) are moot in view of the new grounds of rejections, as the secondary reference is brought in to address these specific limitations.

8. Re claims 2, 6, and 10, Adler teaches recording means operation contents as two-dimensional data (col. 2, lines 3-20; col. 6, line 12 to col. 10, line 67). Alder teaches recording means for the electronic spreadsheet is two-dimensional. Only the primary reference is utilized; as such, no separate motivation or combination is required, and that of the parent claim is hereby incorporated by reference.

9. Re claims 3, 7, and 11, Adler teaches designating the input target and the output target of the specified operation at an execution time of the specified operation and selectively activating the specified operation based on the input target and the output

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target designated, when a specific identifier is included in operation contents recorded by recording (col. 5, line 34 to col. 6, line 42). In other words, Adler teaches the computer-based system, wherein the user identifies a user-selected cell through the input means and enters at least one character into the text edit field through the input means and a memory storage unit. Furthermore, the computer-based system can provide unique benefits by functionally positioning the scripting language behind the spreadsheet. Hence the user may not only define objects but may also alter the basic operations permitted by the spreadsheet on those objects. Only the primary reference is utilized; as such, no separate motivation or combination is required, and that of the parent claim is hereby incorporated by reference.

10. Re claims 4, 8, and 12, Adler discloses the input target and the output target of operation by operating means are specified by another piece of two-dimensional data (col. 5, Lines 1-51). The computer-based system of Adler is linked through a computer network that permits the computer systems to exchange data (i.e. means are specified by another piece of two-dimensional data). Only the primary reference is utilized; as such, no separate motivation or combination is required, and that of the parent claim is hereby incorporated by reference.

11. Re claim 13, Adler discloses a two-dimensional data processing method comprising inputting two-dimensional data, and outputting one piece of two-dimensional data obtained after an entirety of rows or columns of input two-dimensional data is subjected to one of a plurality of predefined operations (col. 24, line 32 to col. 25, line

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44). In other words, Adler teaches the matrix including columns and rows being manipulated. Numerous cells are manipulated for a particular calculation thus will change the information in the necessary rows or columns.

12. Claims 2 – 4, 6 – 8, and 10 – 13 have **not** been amended, and as such, the rejections have not been changed, except to make them under 35 U.S.C. 103(a) instead 35 U.S.C. 102(e); applicant has not specifically addressed these in other than a cursory fashion in the previous responses to examiner's office actions.

13. Re newly introduced claim 15, in paragraph (10), subsections A-E above, the required details to perform this rejection are taught, specifically in that Adler teaches the use of multiple, interrelated spreadsheets (the so-claimed pieces of two-dimensional data) wherein it is known that the entirety of each can be selected, and it is further known in Adler that certain section(s) of the input data set(s) or spreadsheet(s) can be selected at will (e.g. the "entirety" wording is irrelevant, as discussed in claim 1 – user can selectively choose to process the entirety or a subset thereof at will). Further, SQL operators and relational operators (e.g. join operators, as cited in (10), clearly include join operators, which pull from multiple tables, which are clearly two-dimensional data sets, and a join operator and SQL queries are clearly 'predefined operations' or combinations thereof. The claims recite 'a plurality of predefined operations' of which a combination thereof clearly meets the definition of 'a plurality'. Clearly, the output results of the query (see pgs. 308-313, particularly Fig. 9.8 on pg. 311 where a two-dimensional query result is entered) are two-dimensional, and only represent one output piece of data. Finally, such a result, unless done with an 'ALL' command, having any

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kind of join or search criteria put in, will *prima facie* be (as is well known in the art, as is trivially obvious to one of ordinary skill in the art, et cetera) different than the input data set(s) according to the operations so applied to the data set(s). Accordingly, the motivation and combination of claim 1 is adopted herein by reference, as these claims are only broader version of claim 1 and as such the same motivation and combination cited in paragraph (10), section D, above, hold.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

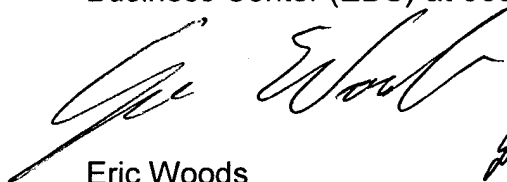
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric V. Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-4:30 alternate Fridays off.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Eric Woods


Jeffrey A. Brier
PRIMARY EXAMINER

June 16, 2005